

MATH1BA - Teaching profile

Learning outcomes

By the end of the course the student will have acquired the knowledge of the discipline and the transferable skills needed to pursue

MATH1BA Programme

Detailed programme by subject

- Mandatory
- ⊗ Optional
- △ Not offered in 2024-2025
- ⊖ Not offered in 2024-2025 but offered the following year
- ⊕ Offered in 2024-2025 but not the following year
- △ ⊕ Not offered in 2024-2025 or the following year
- Activity with requisites
- 🌐 Open to incoming exchange students
- 🚫 Not open to incoming exchange students
- (FR) Teaching language (FR, EN, ES, NL, DE, ...)

Click on the course title to see detailed informations (objectives, methods, evaluation...)

Year

1 2 3

○ Majeure (150 credits)



○ Methodology (5 credits)

○ LMAT1191	Introduction to the mathematical approach	Pierre-Emmanuel Caprace Jean Van Schaftingen	(FR) [q1+q2] [30h+30h] [5 Credits] 🌐	x
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o Probabilités et statistiques (16 credits)

o LMAFY1101	Data exploration and introduction to statistical inference	Anouar El Ghouch	
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				Year		
				1	2	3
⌘ LTECO2200	Societies-cultures-religions : Human Questions	Pedro Dusabamahoro Valinho Gomes	PK [q1] [15h] [2 Credits] 			x
⌘ LTECO2300	Societies, cultures, religions : Ethical questions	Marcela Lobo Bustamante	PK [q1] [15h] [2 Credits] 			x

o Bloc au choix

List of available minors

Students can choose to study certain aspects of their bachelor's degree in greater depth:

- Additional module in mathematics
- Additional module in statistics and data science.

They can also choose to develop their skills in related disciplines:

- Minor in physics
- Minor in applied mathematics
- Minor in computer science
- Access minor to master's degree in economics
- Minor in management ("Initiation")
- Minor in Philosophy

Students choose from the list below of the most commonly programmed minors for mathematicians, or apply for access to one of the UCLouvain minors in the full list (<https://uclouvain.be/fr/etudier/mineures.html>), taking into account any admission requirements.

- > [Additional module in Mathematics](#) [en-prog-2024-appmath]
- > [Approfondissement en statistique et sciences des données](#) [en-prog-2024-appstat]
- > [Minor in Culture and Creation](#) [en-prog-2024-mincucrea]
- > [Minor in Scientific Culture](#) [en-prog-2024-minculsts]
- > [Minor in Development and Environment](#) [en-prog-2024-mindenv]
- > [Minor : Issues of Transition and Sustainable Development \(*\)](#) [en-prog-2024-mindd]
- > [Minor in Economics](#) [en-prog-2024-minecon]
- > [Minor in Gender Studies](#) [en-prog-2024-mingenre]
- > [Minor in Geography](#) [en-prog-2024-mingeog]
- > [Minor in Management \(basic knowledge\)](#) [en-prog-2024-minogest]
- > [Minor in Computer Sciences](#) [en-prog-2024-minsinf]
- > [Minor in Philosophy](#) [en-prog-2024-minfilo]
- > [Minor in entrepreneurship \(*\)](#) [en-prog-2024-minmpme]
- > [Minor in Economics \(open\)](#) [en-prog-2024-minoeco]
- > [Minor in Physics](#) [en-prog-2024-minphys]
- > [Minor in numerical technologies and society](#) [en-prog-2024-minstic]
- > [Minor in Applied Mathematics](#) [en-prog-2024-lminomap]
- > [Minor in Mechanics](#) [en-prog-2024-lminomeca]
- > [Mineure Polytechnique](#) [en-prog-2024-minpoly]

(*) *This programme is the subject of access criteria*

Course prerequisites

The **table** below lists the activities (course units, or CUs) for which there are one or more prerequisites within the programme, i.e. the programme CU for which the learning outcomes must be certified and the corresponding credits awarded by the jury before registering for that CU.

These activities are also identified **in the detailed programme**: their title is followed by a yellow square.

Prerequisites and student's annual programme

As the prerequisite is for CU registration purposes only, there are no prerequisites within a programme year. Prerequisites are defined between CUs of different years and therefore influence the order in which the student will be able to register for the programme's CUs.

In addition, when the jury validates a student's individual programme at the beginning of the year, it ensures its coherence, meaning that it may:

- require the student to combine registration in two separate CUs which it considers necessary from a pedagogical point of view.
- transform a prerequisite into a corequisite if the student is in the final year of a degree course.

For more information, please consult the [Academic Regulations and Procedures](#).

Prerequisites list

- LANG1862** "English: reading and listening comprehension of scientific texts" has prerequisite(s) LANG1861
- LANG1861 - English: reading and listening comprehension of scientific texts
- LEPL1402** "Informatics 2" has prerequisite(s) LINFO1101
- LINFO1101 - Introduction to programming
- LINFO1121** "Algorithms and data structures" has prerequisite(s) LEPL1402
- LEPL1402 - Informatics 2
- LINGE1222** "Multivariate Statistical Analysis" has prerequisite(s) LMAT1271
- LMAT1271

o Analyse

o LMAT1121	Differential and integral calculus	English: reading and listening comprehension of scientific texts (compensates Tom Claeys)	[30h +30h] [5 Credits]
o LMAT1122	Mathematical analysis : differentiation	Augusto Ponce	[q2] [45h +45h] [8 Credits]

o Algèbre et géométrie

o LMAT1131	Linear Algebra	Marino Gran	[q1] [45h +45h] [8 Credits]
o LMAT1141	Geometry I	Pascal Lambrechts	[q2] [45h +30h] [7 Credits]

o Physique et physique mathématique

o LPHYS1111	Mechanics 1	Giacomo Bruno Jan Govaerts	[q1] [45h +45h] [8 Credits]
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o Analyse numérique et Informatique

o LINFO1101	Introduction to programming	Kim Mens Siegfried Nijssen Charles Pecheur	[q1] [30h +30h] [6 Credits]
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o Probabilités et statistiques

	English: reading and listening comprehension of scientific texts	Ar El Ghouch	[q2] [30h +30h] [5 Credits]
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o Anglais

o LANG1861	English: reading and listening comprehension of scientific texts	Catherine Avery (coord.) Fanny Desterbecq Amandine Dumont (coord.) Hila Peer Marc Piwnik	[q2] [10h] [3 Credits]
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[q2]

MATH1BA - 2ND ANNUAL UNIT

- Mandatory
- ⊗ Optional
- △ Not offered in 2024-2025
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- Activity with requisites
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Click on the course title to see detailed informations (objectives, methods, evaluation...)

o Majeure**o Analyse**

○ LMAT1221	Mathematical analysis : integration	Heiner Olbermann	[FR] [q1] [30h +30h] [5 Credits] 🌐 > English- friendly
○ LMAT1222	Complex analysis 1	Tom Claeys	[FR] [q2] [30h +15h] [5 Credits] 🌐 > English- friendly

o Algèbre et géométrie

○ LMAT1231	Multilinear algebra and group theory		
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o Sciences humaines

o Philosophie

L'étudiant choisit

From 2 to 4 credit(s)

⌘ LSC1120A	Philosophy	Charles Pence	FR [q1] [45h] [2 Credits] 🌐
⌘ LFILO1250A	Logic (partim)	Peter Verdée	FR [q2] [45h] [4 Credits] 🌐 > English- friendly

o Bloc au choix

L'étudiant complète son programme en choisissant des cours des 2 blocs suivants (il est conseillé à l'étudiant de s'inscrire à au moins 10 crédits par bloc annuel). Cependant, avoir suivi tous les cours du bloc Statistique et Informatique est recommandé si vous souhaitez vous inscrire au master en science des données, orientation statistique.

⌘ Bloc Mathématique

MATH1BA - 3RD ANNUAL UNIT

- Mandatory
- ⊗ Optional
- △ Not offered in 2024-2025
- ⊖ Not offered in 2024-2025 but offered the following year
- ⊕ Offered in 2024-2025 but not the following year
- △ ⊕ Not offered in 2024-2025 or the following year
- Activity with requisites
- 🌐 Open to incoming exchange students
- 🚫🌐 Not open to incoming exchange students
- (FR) Teaching language (FR, EN, ES, NL, DE, ...)

Click on the course title to see detailed informations (objectives, methods, evaluation...)

o Majeure**o Analyse**

○ LMAT1321	Functional analysis and partial differential equations	Jean Van Schaftingen	EN [q1] [45h +45h] [7 Credits] 🌐 > English-friendly
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o Analyse numérique et Informatique

○ LMAT1351	Approximation: methods et theory	Tom Claeys	EN [q1] [30h +30h] [5 Credits] 🌐 > French-friendly
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o Probabilités et statistiques

○ LMAT1371	Probability Theory	Karim Barigou	EN [q2] [30h +22.5h] [5 Credits] 🌐
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o Séminaires et travaux de synthèse

○ LMAT1381	Personal project and seminary	Marino Gran Augusto Ponce	EN [q2] [30h] [6 Credits] 🌐 > English-friendly
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o Anglais

○ LANG1863	English for Students in Sciences (Upper-Intermediate level)	Ahmed Adriouche (coord.) Catherine Avery (coord.) Amandine Dumont (coord.) Sandrine Jacob (coord.) Adrien Kefer (compensates Amandine Dumont) Nevin Serbest Florence Simon (coord.) Françoise Stas Marine Volpe	EN [q1 or q2] [30h] [3 Credits] 🌐
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o Sciences humaines**o Sciences religieuses**

Students choose 2 credits from the following courses

⊗ LTECO2100	Sociétés, cultures, religions : Biblical readings	Hans Ausloos	EN [q1] [15h] [2 Credits] 🌐
⊗ LTECO2200	Societies-cultures-religions : Human Questions	Pedro Dusabamahoro Valinho Gomes	EN [q1] [15h] [2 Credits] 🌐

⌘ LTECO2300	Societies, cultures, religions : Ethical questions	Marcela Lobo Bustamante	ES [q1] [15h] [2 Credits] 🌐
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o Bloc au choix

L'étudiant complète son programme en choisissant des cours des 2 blocs suivants (il est conseillé à l'étudiant de s'inscrire à au moins 10 crédits par bloc annuel). Cependant, avoir suivi tous les cours du bloc Statistique et Informatique est recommandé si vous souhaitez vous inscrire au master en science des données, orientation statistique.

⌘ Bloc Mathématique

⌘ LMAT1223	Differential equations	Heiner Olbermann	ES [q2] [30h +15h] [5 Credits] 🌐 > English- friendly
⌘ LMAT1322	Real and harmonic analysis	Augusto Ponce	ES [q2] [30h +30h] [5 Credits] 🌐 > English- friendly
⌘ LMAT1342	Geometry 3	Pascal Lambrechts	ES [q1] [30h +30h] [5 Credits] 🌐 > English- friendly

o Minor or additional module

*L'étudiant complète sa formation en choisissant un approfondissement ou une mineure dans la liste proposée pour le bachelier en sciences mathématiques. Il répartit les unités d'enseignement dans le 2e et le 3e bloc annuel, de manière à ce que son programme annuel totalise 60 crédits.
Maximum 1 élément(s)*

MATH1BA - Information

Access Requirements

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Faculty
Sector

Faculty of Science (SC)

